

CBM™

Business Computer System



**New Product
Information**



commodore



COMMODORE BUSINESS MACHINES, INC.
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FOR IMMEDIATE RELEASE

COMMODORE BOOTH #1541

For: Neil McElwee
Commodore Business Machines, Inc.
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MEETS REQUIREMENTS OF CCITT COUNTRIES

COMMODORE BUSINESS MACHINES INTRODUCES
NEW HIGH PERFORMANCE MODEM AT OAC

ATLANTA, March 3, 1980--A new lightweight, high-performance modem that meets the communications requirements of CCITT countries was introduced by Commodore Business Machines, Inc., Santa Clara, Calif., during the Office Automation Conference (OAC) here March 3-5.

Commodore is at Booth 1541 at the Georgia World Congress Center.

"The new CBM Modem will be ideal for use in Europe since international CCITT frequencies are available," said Dennis Barnhart, vice president of marketing. "Exceptional performance, even on noisy telephone lines, is assured by Commodore's filter circuitry, carrier detection, and exclusive acoustic chambers."

The CBM Modem is priced at \$395.

MORE

MORE

MORE

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ADD
MODEM
PAGE TWO

A switchable four-section bandpass filter provides out-of-band rejection assuring accurate processing of the input from received carrier, even at signal levels of less than -47 dBm. Jitter-free data is guaranteed by a soft limiter and phase lock loop discriminator.

The carrier detect circuitry prevents the CBM Modem from operating when excessive noise would produce errors or cause marginal operation. This feature also assures accurate teleprocessing connections and inhibits chatter when the received signal fades.

Proprietary triple-sealed, flat-mounted cups lock the handset into the acoustic chamber for acoustic isolation and mechanical cushioning. The CBM Modem is designed to adapt to the most common handsets used throughout the world.

Capable of operating in half- or full-duplex modes, the modem's operating speed is 300 bits per second. Other features of the unit include:

Interface: Standard IEEE 488

Compatibility: Bell 103 and 113; CCITT

Modulation: Frequency shifted key (FSK)

Transmit Frequencies: *Originate-1070 Hz/Space, 1270

Hz/Mark; Answer-2025 Hz/Space, 2225 Hz/Mark

Receive Frequencies: *Originate-2025 Hz/Space, 2225 Hz/Mark;

Answer-1070 Hz/Space, 1270 Hz/Mark

MORE

MORE

MORE

ADD
MODEM
PAGE THREE

Transmit Level: -15 dBm

Receiver Sensitivity: -50 dBm ON, -53 dBm OFF

Carrier Detect Delay: 1.2 seconds ON; 120 msec OFF

Frequency Stability: ± 0.3 percent

Switches: Originate/Off/Answer; Full Duplex/Test/Half Duplex

Indicators: Transmit Data, Receive Data, Carrier Ready, Test

*International CCITT frequencies available.

The device measures 2" high x 11" long x 4" wide;
weight is two pounds.

For further information contact Commodore Business
Machines, Inc., 3330 Scott Blvd., Santa Clara CA 95051,
408/727-1130.

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FEATURES 80-COLUMN SCREEN

COMMODORE BUSINESS MACHINES ANNOUNCES NEW LINE OF
BUSINESS COMPUTERS AT OFFICE AUTOMATION CONFERENCE

ATLANTA, March 3, 1980--In its continuing drive to aggressively capture a large share of the small business computer market, Commodore Business Machines, Inc., Santa Clara, Calif., today introduced its new 8000 Series business computer featuring an 80 character-wide display screen for faster and easier text editing and report formatting.

The announcement was made at the Office Automation Conference (OAC) being held here at the Georgia World Congress Center March 3-5. Commodore is at Booth #1541.

The 8000 Series is available in 16K (Model 8016) and 32K (Model 8032) versions. Priced at \$1,495 and \$1,795 respectively, the systems can operate using BASIC programming

MORE

MORE

MORE

ADD
80-COLUMN
PAGE TWO

language in both interactive and program modes, with expanded commands and functions for arithmetic, editing, and disk file management.

"The new series is ideal for business applications, such as accounting and word processing, where the 80-column screen will be a real asset," said Dennis Barnhart, vice president of marketing for Commodore Business Machines.

"The 8000 series also needs less code for automatic business programming so the equipment has a greater system memory capacity. Moreover, the new line really outshines the competition when it comes to interfacing equipment peripherals," he said.

The computer's 2,000 character display screen is organized into 25 80-column lines. Such screen editing features as full cursor control, character insert and delete, reverse character fields, and overstriking are provided. In addition, the return key sends the entire line of data to the host computer regardless of the screen's cursor position.

The business computer's display screen generates 64 ASCII characters as well as 64 graphic characters. Characters are formed within an 8 x 8 dot matrix. A 73-key typewriter-like keyboard and a numeric keypad offers a repeat key capability with all keys.

MORE

MORE

MORE

ADD
80-COLUMN
PAGE THREE

For data input/output applications, an IEEE parallel port and an IEEE-488 bus are provided for disk and printer communications. Also included is an eight-bit parallel user port with handshake lines. The 8000 series supports two cassette ports for external cassette input and output.

A pioneer in the field of microcomputers, Commodore Business Machines is the second largest manufacturer of personal computers used in home, small business, educational, professional, scientific and industrial applications.

For further information on the 8000 series, contact Booth #1541.

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COMMODORE BUSINESS MACHINES INTRODUCES HIGH CAPACITY
DUAL DRIVE FLOPPY DISK AT OFFICE AUTOMATION CONFERENCE

ATLANTA, March 3, 1980--A dual drive 5 1/4 inch floppy disk offering features normally found only on larger floppy disk drives has been announced by Commodore Business Machines, Inc., Santa Clara, Calif., here at the Office Automation Conference.

Designated the CBM 8050, the new drive has a total of nearly one megabyte of user storage on the disks, equalling the on-line storage capacity of most eight-inch floppy disk drives.

In addition, the CBM 8050, priced at \$1,695, provides a track density double the typical 48 tracks per inch found on most 5 1/4 inch drives. Deliveries will begin in September of 1980.

"The price/performance ratio is the key benefit to the new disk," says Dennis Barnhart, vice president of marketing

MORE

MORE

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ADD
DUAL DRIVE
PAGE TWO

for Commodore Business Machines. "The disk has all the features of our successful CBM 2040, while providing more powerful software capabilities and greater on-line storage capacity."

The CBM 8050 supplies relative record files and automatic diskette initialization. It can copy all the files from one diskette to another without copying unused space. It also offers improved error recovery and the ability to append to sequential files.

Improved error recovery features include track offset and advanced phase loop lock. A power on/off protect feature prevents the loss of data should the disk remain in the drive at power off.

Door interlocks prevent media damage by allowing the disk cabinet to close only when fully aligned. Combination power (green) and error (red) indicator lights as well as drive activity indicator lights are provided.

The soft sector formatted CBM 8050 offers full software compatibility with existing CBM systems.

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MORE

ADD
DUAL DRIVE
PAGE THREE

For further information on the CBM 8050 dual drive
floppy disk, contact booth #1541.

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PRESS BACKGROUNDER

COMMODORE BUSINESS MACHINES

A Commodore International Limited Company

March 1980

COMMODORE CONTACT: Mr. Neil McElwee
(408) 727-1130

COMMODORE BUSINESS MACHINES

A Commodore International Limited Company

Commodore Business Machines (CBMTM), a Commodore International company, was established in 1976, following acquisition by Commodore of MOS Technology, Inc., a manufacturer of semiconductor and memory devices and microprocessors.

CBM's initial product was the first stand-alone self-contained personal computer, the Commodore PET. Introduced in 1977, the PET has become one of the world's most popular systems of its kind, second only to Radio Shack, and with substantially more installations than Apple II.

Commodore's strategy in entering the computer business is founded on upward integration through the application of component technology to the design and manufacture of end-user products. In turn, this strategy complements Commodore's downward integration into semiconductor components for incorporation into its consumer line of watches and calculators.

In fiscal 1979, CBM accounted for 49 percent of Commodore's sales and 65 percent of income from operations.

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During fiscal 1980, CBM will expand its position in home, office, hobbyist, and educational computing, in addition to continuing its marketing of commercial systems. Future new product developments will continue to draw upon Commodore's recognized capability for innovative product design and marketing, its low-cost, integrated manufacturing base, and an established worldwide distribution and service organization.

COMMODORE INTERNATIONAL LIMITED, The Parent Company

Commodore International Limited, chartered in the Bahamas, is a broadly based, fully integrated manufacturer of advanced computer systems and electronic products.

Commodore's business is divided into four segments:

(1) consumer products, (2) computer systems, (3) electronic components, and (4) office equipment. A separate operating group is responsible for each segment. Within the operating groups, or divisions, Commodore subsidiaries manufacture and market the company's products.

CORPORATE HISTORY

Commodore International was formed in Canada in 1958 as a marketing organization, assembling and selling typewriters and electromechanical business machines. Marketing remains today a fundamental strength of the company, but over the

years new dimensions have been added through a judicious program of acquisitions and through an increasingly significant R&D effort.

In 1968, having sold off its interests in electro-mechanical calculators and adding machines, the company became one of the first U.S. companies to actively market electronic calculators. By 1970, it was assembling and marketing calculators carrying its own name, and by the following year it was the first company to mass-market a compact personal calculator, the C108. In that year it also introduced the first rechargeable calculator, the Minuteman 1. In 1975, the company expanded its calculator market to Europe, where it is today the major supplier of small calculators.

In 1976, with the acquisition of Optical Diodes, Inc., Commodore embarked on a plan to become a vertically integrated marketer of consumer electronics and computer systems. A manufacturer of light-emitting diode displays, ODI gave Commodore its beginning capability in the manufacture of electronic watches.

As the market for electronic calculators became temporarily saturated in 1976, Commodore integrated its manufacturing in order to remain a low-cost producer in the face of increasing competition from semiconductor manufacturers. One

step in this direction was the acquisition of MOS Technology, a Valley Forge, Pennsylvania, manufacturer of MOS chips used in consumer products. The following year, Frontier Manufacturing, Inc., an important producer of integrated circuits, was acquired.

The acquisition of MOS Technology and Frontier gave Commodore the capability to produce the MOS 6502, one of the most widely used and acclaimed microprocessors, as well as RAMs and ROMs. Using these components, the company introduced the Commodore PET--the first low-priced, stand-alone personal computer.

Early in 1979, Commodore acquired Micro Display Systems, Inc., of Dallas, Texas, bringing to the company development and manufacturing capabilities for liquid crystal displays and electronic watch modules. These capabilities are also being applied to the new electronic programmable thermostat being introduced in January 1980.

FINANCIAL HIGHLIGHTS

Computer Systems sales of over \$34 million in fiscal 1979 accounted for 49 percent of sales for Commodore International, more than double the 24 percent recorded in fiscal 1978. Most of this is attributable to rapidly increasing sales of the PET and CBM computer systems, both in the U.S. and abroad.

Net sales for Commodore International for the second quarter of fiscal 1980 ended December 31, 1979, were \$31,516,000, a 101 percent increase over the \$15,677,000 in sales reported for the second quarter of fiscal year 1979. Net income for the quarter before extraordinary credits more than doubled to \$3,090,000 versus second quarter 1979 net income of \$1,690,000. Earnings per share were \$1.37 versus \$.81 per share reported last year.

Commodore International shares are traded on the American Stock Exchange under the symbol "CBU."

RESEARCH AND DEVELOPMENT

Since 1976, Commodore has substantially increased its commitment to research and development from \$800,000 in fiscal 1976 to \$3.6 million--over 5 percent of sales--in fiscal 1979. For fiscal 1980, expenditures on research and development are budgeted to increase another 50 percent to more than \$5 million.

Commodore's primary R&D thrust is in the application of solid-state technology to the development of primary components for the Computer Systems and Consumer Products Divisions. The development of new microprocessors, RAMs, ROMs, general logic circuits, and clocks has stimulated the proliferation of products applying digital technology--ranging from convenience products such as watches and home appliances to

strategic and scientific systems for defense and space applications. Commodore's successful entry into computer manufacturing evolved from its development of the 6502 chip, which is the basic module of the PET computer.

Recent development of additional advanced CMOS micro-processors and other semiconductor components is expected to lead to the introduction in fiscal 1980 of new products in the PET and CBM series, including printers, second-cassette drives, and communications modems that will employ advanced techniques of micro-miniaturization in product design and manufacture.

During fiscal 1980, Commodore will also be developing enhanced ROM and RAM products, and work is moving forward on a large-area LCD to be employed in computers and consumer products.

The electronic programmable thermostat, introduced at CES in January 1980, is expected to be only the first in a series of products involving the application of electronics to energy conservation.

Functionally, research and development at Commodore is decentralized, with each of the operating divisions maintaining a close and constant interface between R&D and manufacturing, process engineering, and marketing.

MARKETING

Commodore markets worldwide through its own direct sales organization in eight countries and through distributors in over 25 countries. Internationally, the company employs over 500 people in sales and service.

In fiscal 1979, sales of \$39 million in North America accounted for 55 percent of total sales of \$77.1 million. European sales of \$21.4 million accounted for 30 percent, and Asian sales of \$10.7 million for 15 percent.

Sales in fiscal 1979 saw a particularly sharp increase in European markets, up 68 percent from \$12.7 million in fiscal 1978, and in Asia, up 270 percent from \$2.9 million in fiscal 1978. In both areas, increased market penetration of the PET computer was the principal reason for the gain in volume. Sales of PET in North America also rose sharply.

Commodore sales are made direct to dealers in the U.S., Canada, England, Germany, Switzerland, Hong Kong, and Japan. Elsewhere, sales are made by the company's international sales subsidiary, Commodore Electronics, Ltd., to distributors who, in turn, sell to local dealers. The typical dealer is a retail store selling personal computers, business machines, and consumer electronic products such as the Commodore line of watches and hand-held calculators.

Commodore owns several "Mr. Calculator" retail stores in the U.S. These stores, specializing in the sale of

Page eight

Commodore computer systems and consumer products, serve as a source of market research on consumer attitudes and as a pilot project for evaluating the retail computer and consumer electronics business.

DEALER NETWORK AND SUPPORT

CBM markets its systems and products through Commodore International's worldwide network of distributor, sales, and manufacturing organizations. In fiscal 1980, recognizing that inflation and the high price of borrowing will impact heavily on dealers and distributors, CBM is instituting an aggressive dealer support program. The program includes expanded credit arrangements, improved warranties, and a new emergency ordering program for rapid turnaround of parts.

CBM is also continuing its highly successful Service Seminar program, which trains dealers to fully service CBM computers and peripherals. Plans call for 10 seminars to be held in 1980.

FACILITIES

Commodore's executive offices are located with its manufacturing facility in the Oakmead industrial complex in Santa Clara, California, where the company occupies one of the first solar energy industrial buildings in the U.S. Solar power supplies 90 percent of the space and water heating and air-conditioning requirements of the 60,000

square foot building, virtually eliminating the need for fossil fuel consumption.

The Santa Clara facility was opened in fiscal 1979 and now produces a full line of Computer Systems Division products, including computer peripherals such as printers and floppy disks. It employs the latest available technology in assembly and materials handling.

In addition to the Santa Clara facility, Commodore International maintains seven additional manufacturing and service facilities throughout the world. Three others in the U.S. are in Newport Beach, California, where CMOS integrated circuits are designed and manufactured; Valley Forge, Pennsylvania, where RAMs, ROMs, and microcircuits are designed and manufactured; and Dallas, Texas, where LCD devices are designed and manufactured.

Office equipment and business machines are manufactured in a 207,000 square foot facility in Toronto, Canada.

Consumer electronics products are manufactured in Hong Kong.

Currently, service facilities for consumer products and computer systems are located in Osaka, Japan, and Slough, England.

In line with the company's introduction of its new line of calculators, Service Centers are being opened in Santa Clara, Dallas, and Norristown, New Jersey, and six more centers will be added by the end of 1980.

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